142 Of the Choroti among whom I carried out my investigations, the men

appeared to be fairly tall of stature,[1] figs. 16—19, 30, whilst the height of the women was remarkably small, figs. 19—22, 30. I took height measurements of ten men and thirteen women, but as the table got lost during the expedition, I am not able to give the maximum and minimum measurements. But I have the computed average heights preserved in my diary, and they are 170 cm for the men, and 152 cm for the women. The height measurements at a later date made of Choroti (who had come to look for work at sugar plantations in Argentina) by Lehmann-Nitsche show an average height of 161.6 for men (aver. of 20 individuals), and for women 155.3 (10 individuals). That Lehmann-Nitsche and I arrived at such appreciably divergent results is because our measurements were taken of so small a number of people. [136] Lehmann-Nitsche having, however, measured twice as many males as I, it may be presumed that the average height obtained by him more nearly approaches the true average for the men of the tribe than does the result obtained through my measurements.

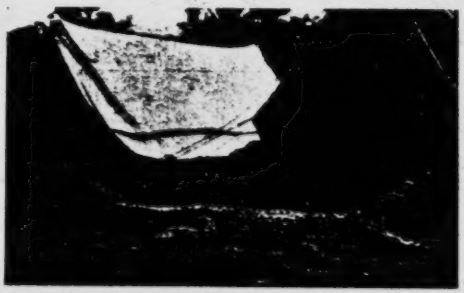

Fig. 15. Spectacle-cayman (Caiman sclerops). Camp at Tatarenda. Gran Chaco. Bolivia. Photo. E. v. R.

[304] The shape of the skull is predominantly dolichocephalic, and shows no traces of artificial deformation.[2] The men, as well as the women, are, as a rule, strongly and proportionately built, although in some individuals the breast is flat and the belly rather big (figs. 17, 37), the latter no doubt [262 146] resulting from the fact that the Choroti largely subsist on roots and fruits, a kind of diet usually producing distension of the stomach. As an example, in the rural districts of Europe it is no rare thing to come across persons, especially children, who, from a too-protracted diet of potatoes, have developed a distended stomach, a so-called »potato belly».

[1] That also among the Indians of the eastern part of the Chaco tall individuals are found, is evident from the following statement by Professor Carl Lindman: »Those Indians whom I saw along the Paraguay, opposite Asuncion and northwards, were to a large extent muscular and well built, some, even, were very tall of body and athletic looking.» Lindman (1), p. 72.

[2] These items of information have been supplied me by Professor Gustav Retzius, who has examined the Choroti skulls brought home by our expedition.

361 (material for roofing huts), the Indians are apt to build their villages in
824 the proximity of some grove, or forest, of palms (›palmar‹). As a case in instance, the Choroti village at Tatarenda was situated quite close to a palm grove, and not very far from a largish palm forest. It is of im-
● [262] portance that algaroba trees should be growing in the neighbourhood, as the fruit of this tree plays a prominent part in the food arrangements of these Indians.

342 The huts are of a very primitive character, and are built in the following manner; With a digging-stick (fig. 27) of hard, heavy wood, a succession of holes is dug, or jabbed, in the ground, so as to form a circle with a diameter of 2 metres or upwards. In each of these holes is planted an unlopped, bent-grown branch, thick end downwards, so that the tips of the branch point towards the centre of the circle. By this means a cupola-shaped frame is formed (fig. 26). This frame is covered with a thick layer of palm leaves and grass (figs. 16, 25), unless palm leaves are difficult to obtain, when the hut will be covered with grass only, although huts thatched in this way have less rain resistance. But even the most carefully built Choroti huts are, however, poor enough dwellings which, in any heavy downpour of rain, are unable to keep those inside them from a wetting.

Fig. 18. A man holding a pestle in his hands. Choroti. Gran Chaco. Bolivia. Photo. E. v. R.

The huts have one, or even two, entrances, about one metre in height (figs. 16, 25), but huts of the largest size are sometimes provided with several entrances. A sort of porch, constructed of branches and grass, may occasionally be built out from the entrance. When several huts are close together, they may not unfrequently be connected with each other by means of covered passages, or tunnels, built similarly to the huts.

352 The latter do not contain many utensils. Ranged along the wall, bowls
● 15 made of gourd shell, a few clay vessels and a wooden mortar, are gene-
824 rally seen. In prettily knitted net bags of spun caraguatá fibre,[1] the Choroti keep all manner of small articles, such as mussel-shell spoons,

[1] Caraguatá, or chahuar (chaguar), Bromelia serra, is, as I have already pointed out, especially common in the Chaco.

wooden sticks for fire-drilling, toilet articles, magic rattles, etc.

515 Painting,
302 pulling out of hairs, and, in certain cases, the cutting of the hair, are,
[782] however, probably to a great extent to be looked upon as acts of magic import.[1]

515 A toilet business that cannot very well be said to be due to any supernatural conception, is, however, lice-picking. Practically all Choroti are infested with lice. When these are getting too troublesome, somebody is called in for assistance (see fig. 89). This is a service willingly rendered by the Choroti, for it is a kind of hunting that they visibly enjoy. To an onlooker it would seem as if the louse hunters also greatly valued
[262] the quarry, for as soon as a louse has been caught, it is eaten by the hunter. But nevertheless I think it a mistaken idea that phthiriophagi find the lice nice-flavoured, for head lice are surely too small to have any particular taste, good or bad. Lice-eating probably has probably originated from a desire to render harmless, in the simplest way, such lice as have been caught. These little animals take a good deal of killing, if done with the fingers only, and there is not always a camp fire handy, into which to throw them; for less squeamish individuals, the eating of the catch undeniably proved the most practical way. I think it very probable that lice-eating also among monkeys has its explanation in a wholly conscious effort at annihilating noxious parasites.

[1] Karsten (4), Chap. 1, 3 and 6.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

CHAPTER III.

The Choroti (3). Modes of subsistence.

Their various industries. Hunting. Bows. Arrows. Game-stalking. Game-driving. Decoying game by imitative calls. Tracking. Snares. War weapons. Clubs. Knuckle-dusters. Bone daggers. Knives made of cane. Mail shirts. Methods of warfare. Incendiary arrows. Ambuscades. Preparing for war. Scalping. Torture. Causes of war. Fishing. Nets. Driving fish. Blocking up fishing-water. Swimming and wading, in fishing. Fish fences. Pile-buildings used in fishing. Mesh-spacers. Fish-hooks and lines. Fish clubs. Transportation of fish. Dangers in fishing. Gathering of wild food plants. Implements used in gathering wild plants. Agriculture. Cultivated plants. Agricultural implements. Cattle-rearing. Domestic animals. Nomadic life. Trading.

The Choroti subsist on hunting, fishing, the gathering of wild, edible plants, and, to some small extent, also on a very primitive form of agriculture, and by trading with their neighbours.[1]

Hunting of game is mainly done with bows and arrows, and snares. The pellet-bow and the sling are met with among the Choroti, but are only used as toys.[2]

The collection of Choroti objects that I presented to the Riksmuseum included 14 bows, only 11 of which are now to be found. They form the material upon which the following description of Choroti bows is founded.

The bow staves consist of some kind of wood which is hard, resilient and usually free from knots. Probably quebracho (Schinopsis lorenzii) and palo mataco (Achatocarpus praecox) are the woods most frequently used as bow stave material. The bows of the Choroti (figs. 90 and 91) are better made than those of the Chiriguano, but are not of such good workmanship as the bows that I have seen among the Toba on the upper Pilcomayo.

[1] The description I am here giving of the Choroti refers, unless otherwise stated, to this tribe's mode of living at the time my observations were made (1901). Since then, many changes have come into the Chaco Indians' mode of living.

[2] Nordenskiöld (13), p. 48.

[p. 85]

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6 .

shape as the strange-looking Choroti arrow, which is seen in fig. 102.[1] The Esquimaux, like the Choroti, live in a bone-and-wood age, although the latter people to a large extent use the bone-hard wood of several species of Chaco trees in the place of bone. In both cases the arrows are intended for hunting big game. It is a strange thing, however, that the arrows just referred to, from Greenland and from the Chaco, are so much alike in shape that one might point to a reproduction of the Esquimaux arrow in question as being the type of a lanceolate, barbed, Choroti arrow. As to the ancient Indian arrows of Chaco type found within the Andean region, previously referred to, it is, however, not only their form that is identical with the Chaco arrows, but also the material (reed, and species of wood that do not grow in the mountain region) is typical of the Chaco. This being so, it may with great certainty be established that the ancient Indian arrows in question really originate from the Chaco, and that we here have one of the many indications that point to old-time communication between the mountain region and the plains to the east of it.

The Choroti hunt all sorts of game, from jaguars, pumas and ostriches, to lizards and rats. Among edible game are counted, among others, also birds of prey (even vultures), foxes, armadillos, rats, lizards and snakes. On the other hand, some Choroti, at least, will not touch deer's flesh, as they believe these animals to be possessed by evil spirits.[2] Some of the species of animals just enumerated, too, are by certain individual Choroti considered dangerous to eat (see p. 114).

When the Choroti are out hunting with bow and arrow, they naturally endeavour to stalk as closely as possible up to the game, and then occasionally employ a stratagem common to many tribes who live by the chase, namely that of tying tall leafy bunches about waist and shoulders, so as to give the hunter the appearance of a bush. This stalking trick is also known to the Lengua. On this point, Grubb writes to the following effect: »The ostrich is a very wild, though stupid bird, and the hunting methods of the Lengua are based on this fact. When hunting in a palm forest, the hunter ties a few palm leaves together and fastens them to his head and shoulders, so as to resemble a small palm. By means of this disguise he has no difficulty in getting within easy range of

[1] Solberg (1), p. 73, fig. 54, bottom row of arrows, the second specimen from the left.
[2] Karsten (2), p. 33.

1:Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

CHAPTER IV.

The Choroti (4). Food and drink. Household furniture.

Game used for food. Different ways of preparing, serving and eating the food. Preserving food. Salt. Water. Earthenware vessels. Bottles, boxes, dippers and spoons, made out of calabash shell. Wooden food dishes and spoons. Baskets. Large-sized bags of caraguatá fibre yarn. Carrying-nets. Men's handbags of caraguatá and wool. Cactus spines used as »Knitting needles». Distaffs. Weaving. Bast ropes. Knives, of iron, wood, and cane. Jaws of fishes, used as knives. Mussel-shell scrapers. Wooden saws. Bone awls. Fire-drilling.

262 Whilst on the subject of the hunting methods of the Choroti, I stated that those Indians look upon almost any kind of wild animal as being eatable, and that they even eat such, from a food point-of-view, repulsive animals as foxes, rats, vultures, owls, lizards and snakes. Certain insects, too, e. g., the larvae of a large beetle, and locusts, are used as food. The eating of foxes and vultures is not, however, practised by all Choroti. Nordenskiöld, for instance, says that foxes are by the Choroti considered useless for human food,[1] whilst Karsten numbers the fox among such animals as are eaten.[2] The latter, however, adds that vultures, owls and foxes are only eaten by elderly people who may be considered versed in the art of laying evil spirits. Therefore in the case of the Choroti, it would seem as, if the question of the edibility of any particular animal were largely dependent upon magical conceptions, so that anyone who is an expert exorcist may safely indulge in the eating of the flesh of any wild animal (see p. 97).

252 Meat may be roasted paled on skewers, or broiled on hot embers, or it may be boiled, and smaller animals, such as lizards, snakes and rats, are placed in the ashes that are on top of the glowing coals, without

[1] Nordenskiöld (13), p. 53.
[2] Karsten (2), p. 32.

[p. 114]

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

skinning or gutting, and are usually eaten with entrails, excrement and all. When the Choroti eat the entrails of larger animals, they do not first rinse them out, but are, at best, content with squeezing out the contents. Nordenskiöld has seen them eating intestinal contents as spinach together with the meat.[1] Fish is grilled, either by being laid on glowing embers, or tied between two sticks stuck into the ground by the fireplace.

As servers for food are used bowls of clay, wood, or calabash shell, or merely large, fresh leaves.

In foregoing chapters I have given the names of such plants, wild as well as cultivated, as are of importance in the food supply of the Choroti. Vegetables are eaten raw, boiled, roasted or dried. The Choroti, like other Chaco tribes, eat the fruits of the algaroba, and other similar fruits, in the following, rather original way. The raw fruits are put into a large wooden mortar (fig. 122), and there pounded up. The pulp is put into a calabash bowl, where it is stirred up with water, and the dish is then ready for eating. Those who are about to partake, squat down around the bowl, and each individual helps himself with his bare hand to the pulpy mass, which he puts into his mouth, chews and sucks, whereupon he spits his mouthful of mush back into the bowl. Another mouthful is taken, and in due course spat out, and so on. This is repeated by all the participants of the meal until all the sweet and nutritious components of the mess have been used up. What a bowl of »fruit cheese» is like, after half-a-dozen Indians have been eating and spitting for a while, the reader may possibly picture to himself, by the aid of his imagination.

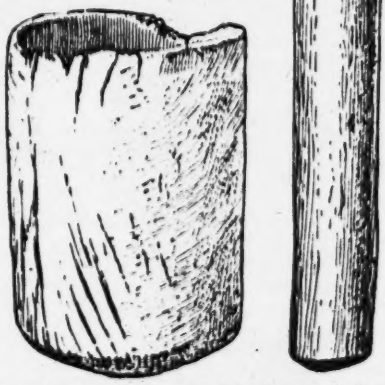

Fig. 122. Mortar and pestle of hard wood, the latter consisting of palo santo. Choroti, Gran Chaco, Bolivia. 1/4. Riksm. 03. 3. 155 and 03. 3. 157.

In another work of mine I have said that the Choroti eat the *fruits*

[1] Nordenskiöld (18), p. 53.

1: Rosen E-5 (1901-1902) 1924 SK6 Choroti SK6

of the chaguar (chahuar).[1] This statement, which is erroneous, is due to the similarity of sound existing between chaguar[2] and chañar.[3] The *fruits* of the latter are eaten by the Indians, whilst of the former only the rootstock is edible.

By drying, the Choroti preserve vegetables against seasons of shortened food supply.

Personally I have not seen the Choroti use salt, but, nevertheless, they possess this condiment. Possibly they, like the Lengua, extract salt from the ash of a plant growing on the Chaco.[4] Salt-making from vegetable ash is known to many primitive peoples.[5]

Among the Choroti I never saw men and women eating together.

The preparing of food is, as a rule, the work of the women. The Choroti are not dainty about their food, and the uncleanliness which is a distinguishing trait in culinary matters among these Indians surpasses almost anything I have ever observed among other primitive peoples, with the exception of the Mataco Indians. Of the latter, however, my experience is limited to only a few families, and it may be unfair to judge the whole tribes from those.

Water, often muddy, ordinarily forms the drink of the Choroti. When in the dry season the Indians are on the move, or from some reason or other find themselves far away from any river, they sometimes suffer very badly from lack of water.

In the season for harvesting wild fruits, such as algaroba, tusca, and chañar, an intoxicating fruit beer is brewed. During the time of year that I visited the Choroti, there were no fruits of which any intoxicating beverage could be brewed; consequently I never had an opportunity of observing either the brewing of beer, or any drinking carousal. This led me to suppose that the art of brewing fermented liquor was unknown to the Choroti. Nowadays the Choroti have learnt from the Chiriguano also how to brew maize beer. Of the Choroti method of beer-brewing, Nordenskiöld has given the following description:

»When tusca beer is to be made, the fruit is first of all ground, and they water added, the whole being thereupon left in a dirty animal hide,

[1] von Rosen (3), p. 9.
[2] Bromelia serra.
[3] Gourliea decorticans.
[4] Hawtrey (1), p. 287.
[5] For one method of producing salt from plants, see von Rosen (4), p. 240.

2: Karsten E-5 (1911-1913)1932 SI7 Mataco SI7
Toba SI 12
Choroti SK 6

M I C 224 C [262]

rarely succeed in killing a tapir, a deer, or a wild pig. Besides, the deer is an animal of which the Choroti have a superstitious fear, and its flesh is never eaten by them; when they kill one, they only keep the hoofs, which are used as magical rattles, the leg-bones, of which instruments used for ceremonial blood-letting are made, and the skin which is used for different purposes. Of birds, as I have stated before, the ostrich is especially appreciated both on account of its flesh and its plumes, which play a great role as personal ornaments and to which magical power is ascribed. In hunting the ostrich the Choroti, like other Chaco tribes, avail themselves of the trick of binding palm leaves together and placing them on the head and shoulders so as to resemble a young tree. Disguised in this way, the Indians generally succeed in getting within easy range of the shy bird, and are thus able to bring it down with their arrows. Another trick of which the Indians often make use in hunting is that of imitating the cry of certan animals and birds by means of round wooden whistles, particularly invented for this purpose. With the same whistles, which are supposed to possess magic power, they also imitate the supposed whistling sound of the spirits, which are thereby frightened away.

T 224

The Tobas are much more skilled hunters than the Choroti and the Mataco, and, at least in Bolivia, the country inhabited by these Indians is comparatively rich in game. Thus tapirs, deer, and wild pigs, of which latter there are two varieties, are frequent in the forests, and the Tobas hunt them eagerly, using bows and arrows as well as lances as weapons. All Indians, and particularly the Tobas, are expert in stalking ainmals; the latter are thereby aided by their dogs which are specially trained for the hunting of the wild pig. Even the jaguar and the puma are hunted by the Tobas with dogs.

M I C 231

Of domestic animals the Chaco Indians keep dogs, sheep and goats as well as fowls.[1] Horses were long ago introduced among the Tobas who

[1]) Nordenskiöld, when treating of the domestic animals of the Bolivian Indians in his *Ethnography of South America seen from Mojos in Bolivia*, p. 114, amongst other things mentions that in Mojos only the civilized Indians keep cattle, which have been introduced by the whites, and adds the following erroneous statements as regards the Chaco Indians: »In the Chaco, on the other hand, *even the independent Indians have cattle* which play an important part for them. *The Indians keep no sheep or goats*». I wish to point out that neither the Tobas nor the Choroti, nor the Mataco on the Pilcomayo keep cattle. On the other hand, sheep and goats are kept by *all* Pilcomayo tribes and, as far as I know, by all other Chaco Indians, except perhaps some savage tribes in the interior of the unknown Chaco.

2: Karsten E-5 (1911-1913)1932 SI7 Mataco

Choroti SK6

their rattle gourds, whilst the men provided with drums beat them. The girl in whose honour the dance was held was standing motionless and silent at the entrance of the hut reclining against the wall and had to remain so during the whole ceremony. Sometimes, when towards evening she got tired and was on the point of falling asleep, one of the medicine-men came up to her and shook his rattle close to her face as if to keep her awake. The ceremony began in the afternoon and was continued with short pauses throughout the whole evening until midnight. I was informed that as long as the dance goes on the girl need not be veiled, but as soon as the conjuration is finished for the night she must have her face and her whole body well covered. During the whole period that the dance is performed she is moreover obliged to fast, avoiding fish and meat and living only on some light vegetable food.

I may add that all the men who took part in the ceremony were painted on the face in one way or another. Some of them simply had the face coated red with roucou or black with charcoal, whereas others had X-shaped or other patterns painted on the cheeks. The men's faces are always painted in this way at the conjurations of the Indians, and these paintings have a purely magical significance.

The drinking of algaroba beer also forms part of the magical practices at the feast, but it is strictly limited to the men.

The object of all these ceremonies is to protect the girl against the evil spirits, the *möhsek*, by which she is believed to be particularly attacked during her unclean condition. The spirits try to enter into her through the face — especially through those parts where there is a natural opening of the body, such as the eyes, the ears, the nose, and the mouth — and also through the ventral parts, the consequence being, if they succeed in doing so, that she will fall ill and die, or become supernaturally pregnant and give birth to a monster. It is in this way that the Indians account for the birth of those deformed children which they kill directly after birth. To prevent such frightful accidents the girl's head and body are covered after the conjuration is finished for the night. By means of the dancing, chanting, drumming, etc. the evil demons who take an interest in the girl and swarm about her are conjured and rendered harmless. According to the idea of the Indians she is not only protected for the time being against their attacks, but she will also retain a certain power of resistance against them in the future.

The puberty of a girl is not celebrated in all cases among the Choroti with so many ceremonies as in the case just described, but the

2: Karsten E-5 (1911-1913)1932 SI7 Matacc

Choroti SK6

CHAPTER XVI.

Ceremonial fasting.

M 785 262 Fasting or restrictions in diet play an important part among the religious practices of the Chaco Indians. In most cases ceremonial fasting seems to be due to the belief that in eating man may come in contact with dangerous disease-bringing spirits which are in some way associated with the food. Since harmful spirits are supposed to have a special liking for certain kinds of food, these kinds of food are in some cases taboo to the Indians. The common belief that the spirits of the dead reincarnate themselves in various animals has in the first place given rise to all sorts of food restrictions, for the meat of such animals is generally, although not invariably, regarded as taboo.

M 262 The Indians of the Gran Chaco, dependent upon very restricted sources of subsistence, as a rule utilize everything that can possibly be used as food. Thus several animals are eaten which we do not regard as fit for food, and if a certain animal is despised, this is, as a rule due to superstitious ideas of one kind or another. The *Choroti* for instance among other things regard such animals as locusts, certain beetles, lizards, and a kind of rat as delicacies; of others the fox is considered edible, as also of birds the owl and a certain kind of vulture (called *carancho* in Spanish, *Polyborus vulgaris*). In regard to the fox, the owl, and the vulture, however, there is the restriction that only *old* people can eat them, not young people and children, whom such food would do harm. In several cases I received from the younger Choroti men the explanation: »The old ones can eat the meat of this or that animal, not we». This means that such animals or birds as those just mentioned are in some way associated with evil spirits; the eating of the meat of these animals therefore would have disastrous consequences for young people and children who have less power of resistance against evil

C 262

[388]

2: Karsten E-5 (1911-1913)1932 SI7 Mataco SI7

Choroti SI6

spirits, but not for old men who are initiated in the magic art and know how to render them harmless. — It is curious that on the other hand an animal like the *deer* is regarded by the Choroti as absolutely unfit for food. Not even old men would touch the flesh of deer, believing that if they did, they would die. This is due to the belief mentioned before, that the deer is an evil spirit (*möhsek*), the reincarnation of the spirit of a sorcerer, a superstition which is widespread among the South American Indians and everywhere manifests itself in an aversion to eating the meat of this innocent animal.

Ceremonial fasting, as we have seen, is prescribed among the Choroti and the Mataco on certain occasions which are regarded as important and critical in some respect. Thus the father has to restrict his diet when he is lying in couvade, and girls have to diet during their first menstruation. We have also seen that behind these practices there is the fear of evil spirits in one form or another.

If disease and death bringing demons are believed to enter easily into the body with the food eaten, we can understand why eating is so often to the Indians a ceremonial business. This is also intelligible from the point of view that by eating an animal and coming in contact with its soul, a man may acquire the spiritual qualities of that animal. This idea explains the curious custom practised among the Tobas, that when a chief's daughter attains puberty, the men alone have to eat the meat of the ostrich, whereas the women eat the meat of the armadillo. As a general rule, both among the Tobas and among other Chaco Indians, men and women do not eat together but separately, the men first and the women afterwards. This custom is observed so strictly, that one may assume a particular superstition behind it. Moreover, when the Indians eat, they do not speak much with one another and do not like to be spoken to. Since they believe that man may evade evil spirits by keeping silence and avoiding attracting their attention, it is possible that the ceremonial character of their banquets is partly connected with this idea. And as women are especially believed to attract the spirits, this may be, or may originally have been, one reason why the men avoid eating with them. But it should also be remembered that in primitive societes eating together is believed to establish a mysterious union or connection between all those taking part in the common banquet. Since a strict distinction is made between a man's and a woman's spiritual qualities, it is not difficult to understand that the men avoid the company of the women on those occasions when they eat. However